## REMARKS

The Office Action mailed May 17, 2007 has been carefully reviewed and the foregoing amendment has been made in consequence thereof.

Claims 1, 2, 4, 6-27, 30, 32, 34-36, 38, 39, 42-45, 47, 49, and 50 are now pending in this application. Claims 1-14, 17-27, 29, 32-34, 38, 39, 42-47, 49, and 50 stand rejected. Claims 15, 16, 35, and 36 are allowed. Claims 3, 5, 33, and 46 have been canceled.

The rejection of Claims 1, 12, 14, 19, 21, 24, 25, 27, 38, 39, 42, 47, and 49 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,631,896 to Kawase et al. (hereinafter referred to as "Kawase") in view of U.S. Patent 6,842,481 to Lo (hereinafter referred to as "Lo") is respectfully traversed.

Kawase describes a path switching apparatus. Incoming line signals arrive through a working path (51) and a protection path (61) and are transmitted to signal terminating circuits (53 and 63). Terminating circuits (53 and 63) detect the respective arriving times of the signals and supply the times to a phase difference detecting circuit (70). Phase adjusting circuits (54 and 64) adjust the phase of the signals and supply the now in-phase signals to delay circuits (55 and 65). The output signals of terminating circuits (53 and 63) are also transmitted to error detecting circuits (56 and 66), which detect a bit error and supply a correlation monitoring circuit (75) with the error detection results. The correlation monitoring circuit (75) determines whether the switching between the working path (51) and the protection path (61) should be carried out and supplies a switching circuit (71) with a switching control signal (S21). If a failure is detected in the protection path (61), switching from the working path (51) to the protection path (61) is inhibited. If no failure is detected in the protection path (61) and a failure is detected in the working path (51), switching is performed from the working path (51) to the protection path (61).

Lo describes a repeater system (30) for selectively corrupting transmission of a data packet on selected ports. The system (30) includes a repeater core (32), repeater ports (34), and physical layer transceivers (36). The repeater ports (34) are configured for

communication with respective network nodes (14) via respective media independent interfaces (40). The repeater core (32) includes an address look-up table (LUT) (44) and a security circuit (46). The LUT (44) stores the MAC addresses of each network node (14) that registers with the repeater (32), and the corresponding repeater port (34) connecting the network node (14) to the repeater core (32). Accordingly, the repeater core (32) can identify the repeater port (34) corresponding to a network node (14) based on the corresponding MAC address of the destination network node (14). Upon receiving a data packet from a transmitting network node (14), the repeater core (32) can determine the output repeater port (34) serving the destination network node (14) by accessing the LUT (44) based on the destination address in the received data packet. Once the repeater core (32) identifies the repeater port (34) corresponding to the network node (14) having the destination address specified in the data packet, the security circuit (46) transmits the data packet on the identified repeater port.

Claim 1 recites an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first monitoring device comprising a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second monitoring device for reporting the link status of the secondary network cable and secondary node; a logic device for monitoring the link status reported by the first and second monitoring devices; and a switching device for routing the data to one or the other of the primary or secondary network cables, wherein the first monitoring device is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switching device routes the data to the secondary network cable."

Neither Kawase nor Lo, considered alone or in combination, describes or suggests an autonomous circuit enabling the routing of data to a primary or a secondary network cable connected to primary and secondary nodes, as is recited in Claim 1. More specifically, neither Kawase nor Lo, considered alone or in combination, describes or suggests a switching

device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. However, Neither Kawase nor Lo, considered alone or in combination, describe or suggest a switching device for routing data to one or the other of a primary or secondary network cable, wherein the a monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo.

Claims 12, 14, 19, 21, 24, 25, and 27 depend from independent Claim 1. When the recitations of Claims 12, 14, 19, 21, 24, 25, and 27 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 12, 14, 19, 21, 24, 25, and 27 likewise are patentable over Kawase in view of Lo.

Claim 38 recites a method of administering a redundant cable system, wherein the method includes "monitoring, with a first monitoring device comprising a first physical layer transceiver, an occurrence of a fault within a primary network cable; monitoring, with a

second monitoring device comprising a second physical layer transceiver, an occurrence of a fault within a second network cable; and switching a data stream route from the primary network cable to the secondary network cable when the first monitoring device indicates a fault in the primary network cable and the second monitoring device indicates no faults in the secondary network cable, wherein the first monitoring device is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable."

Neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method of administering a redundant cable system, as is recited in Claim 38. More specifically, neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method including switching a data stream route from a primary network cable to a secondary network cable when a first monitoring device indicates a fault in the primary network cable and a second monitoring device indicates no faults in the secondary network cable, wherein the first monitoring device is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. However, neither Kawase nor Lo, considered alone or in combination, describe or suggest switching a data stream route from a primary network cable to a secondary network cable when a first monitoring device indicates a fault in the primary network cable and a second monitoring

device indicates no faults in the secondary network cable, wherein the first monitoring device is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 38 is submitted to be patentable over Kawase in view of Lo.

Claims 39 and 42 depend from independent Claim 38. When the recitations of Claims 39 and 42 are considered in combination with the recitations of Claim 38, Applicants submit that dependent Claims 39 and 42 likewise are patentable over Kawase in view of Lo.

Claim 47 recites a method of creating a cable redundancy, wherein the method includes "monitoring a fault in a primary network cable with a first physical layer transceiver (PHY); monitoring a fault in a secondary network cable with a second physical layer transceiver (PHY); and switching data traveling along the primary network cable to a secondary network cable when a fault is detected in the primary network cable, wherein a link status output on the first PHY indicates a status of the primary network cable, wherein the first PHY is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable."

Neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method of creating a cable redundancy, as is recited in Claim 47. More specifically, neither Kawase nor Lo, considered alone or in combination, describes nor suggests a method including switching data traveling along a primary network cable to a secondary network cable when a fault is detected in the primary network cable, wherein a link status output on a first physical layer transceiver (PHY) indicates a status of the primary network cable, wherein the first PHY is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives

error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. However, neither Kawase nor Lo, considered alone or in combination, describes or suggests switching data traveling along a primary network cable to a secondary network cable when a fault is detected in the primary network cable, wherein a link status output on a first physical layer transceiver (PHY) indicates a status of the primary network cable, wherein the first PHY is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 47 is submitted to be patentable over Kawase in view of Lo.

Claim 49 depends from independent Claim 47. When the recitations of Claim 49 is considered in combination with the recitations of Claim 47, Applicants submit that dependent Claim 49 likewise is patentable over Kawase in view of Lo.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 1, 12, 14, 19, 21, 24, 25, 27, 38, 39, 42, 47, and 49 be withdrawn.

The rejection of Claim 50 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo and further in view of U.S. Patent 6,690,650 to Stener (hereinafter referred to as "Stener") is respectfully traversed.

Kawase and Lo are described above. Stener describes a network repeater (10) configured for transmitting data packets between remote network nodes (12). The repeater (10) includes four repeater ports (14) that transmit and receive data packets with the

respective remote network nodes (12). Each repeater port (14) establishes a link with the corresponding network node (12) at a prescribed data rate via a network medium (16), such as CAT-3 or CAT-5 cable. Each repeater port (14) automatically configures to the speed of the remote network nodes (12) using negotiation protocols. The repeater (10) also includes a link controller (34) configured for selectively changing the established links between each repeater port (14) and the corresponding network node (12) based on a detected reduction in the link integrity as determined by a presence of symbol errors detected over a successive number of detection intervals.

Claim 1 recites an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first monitoring device comprising a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second monitoring device for reporting the link status of the secondary network cable and secondary node; a logic device for monitoring the link status reported by the first and second monitoring devices; and a switching device for routing the data to one or the other of the primary or secondary network cables, wherein the first monitoring device is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switching device routes the data to the secondary network cable."

None of Kawase, Lo, and Stener, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, as is recited in Claim 1. More specifically, none of Kawase, Lo, and Stener, considered alone or in combination, describes nor suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. Stener describes a network repeater including four repeater ports that transmit and receive data packets with respective remote network nodes and a link controller that selectively changes the established links between each repeater port and the corresponding network node based on a detected reduction in the link integrity. However, none of Kawase, Lo, and Stener, considered alone or in combination, describes or suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and further in view of Stener.

Claim 50 depends from independent Claim 1. When the recitations of Claim 50 is considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 50 likewise is patentable over Kawase in view of Lo and further in view of Stener.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 50 be withdrawn.

The rejection of Claims 30 and 32-34 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Stener and further in view of Lo is respectfully traversed.

Kawase, Stener, and Lo are described above.

Claim 30 recites a method of creating a cable redundancy, wherein the method includes "monitoring a link status of a primary network cable with a first monitoring device, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable, wherein the first monitoring device translates a message based on a speed of a network when a physical layer transceiver does not monitor the link status of the primary network cable; monitoring a secondary network cable with a second monitoring device, wherein the second monitoring device indicates the status of the secondary network cable; and switching data traveling along the primary network cable to the secondary network cable when a fault is detected in the primary network cable, wherein the first monitoring device monitors only the secondary network cable when data is switched to travel along the secondary network cable, and wherein the first monitoring device link status output indicates a status of the secondary network cable."

None of Kawase, Stener and Lo, considered alone or in combination, describes nor suggests a method of creating a cable redundancy, as is recited in Claim 30. More specifically, none of Kawase, Stener and Lo, considered alone or in combination, describes nor suggests a method including switching data traveling along a primary network cable to a secondary network cable when a fault is detected in the primary network cable, wherein a first monitoring device monitors only the secondary network cable when data is switched to travel along the secondary network cable, and wherein a first monitoring device link status output indicates a status of the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Stener describes a network repeater including four repeater ports that transmit and receive data packets with respective remote network nodes and a link controller that selectively changes the established

links between each repeater port and the corresponding network node based on a detected reduction in the link integrity. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. However, none of Kawase, Stener, and Lo, considered alone or in combination, describes or suggests switching data traveling along a primary network cable to a secondary network cable when a fault is detected in the primary network cable, wherein a first monitoring device monitors only the secondary network cable when data is switched to travel along the secondary network cable, and wherein a first monitoring device link status output indicates a status of the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 30 is submitted to be patentable over Kawase in view of Stener and further in view of Lo.

Claims 32-34 depend from independent Claim 30. When the recitations of Claims 32-34 are considered in combination with the recitations of Claim 30, Applicants submit that dependent Claims 32-34 likewise are patentable over Kawase in view of Stener and further in view of Lo.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 30 and 32-34 be withdrawn.

The rejection of Claims 2-7, 9, 10, 17, 18, 23, and 26 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo and further in view of U.S. Patent 6,618,392 to Bray (hereinafter referred to as "Bray") is respectfully traversed.

Kawase and Lo are described above. Bray describes a network transceiver (20) that establishes a communication path between a link partner (22) on a network medium and repeaters (24) that are data rate compatible with the operating speed of the link partner (22). The transceiver (20) includes a physical layer device (28) having a data rate corresponding to the speed of operation of a link partner (22) on the network medium, wherein the device (28)

is configured either for 10 Mb/s data processing or for 100 Mb/s data processing. A multiplexer (32) routes the output of the device (28) to whichever one of the repeaters (24) that is data rate compatible with the link partner (22).

Claim 1 recites an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first monitoring device comprising a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second monitoring device for reporting the link status of the secondary network cable and secondary node; a logic device for monitoring the link status reported by the first and second monitoring devices; and a switching device for routing the data to one or the other of the primary or secondary network cables, wherein the first monitoring device is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switching device routes the data to the secondary network cable."

None of Kawase, Lo, and Bray, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, as is recited in Claim 1. More specifically, none of Kawase, Lo, and Bray, considered alone or in combination, describes nor suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path,

switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. Bray describes a network transceiver that establishes a communication path between a link partner on a network medium and repeaters that are data rate compatible with the operating speed of the link partner. However, none of Kawase, Lo, and Bray, considered alone or in combination, describes or suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and further in view of Bray.

Claims 3 and 5 have been canceled. Claims 2, 4, 6, 7, 9, 10, 17, 18, 23, and 26 depend from independent Claim 1. When the recitations of Claims 2, 4, 6, 7, 9, 10, 17, 18, 23, and 26 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 2, 4, 6, 7, 9, 10, 17, 18, 23, and 26 likewise are patentable over Kawase in view of Lo and further in view of Bray.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 2-7, 9, 10, 17, 18, 23, and 26 be withdrawn.

The rejection of Claims 8 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo and Bray and further in view of U.S. Patent 6,735,171 to Takeguchi (hereinafter referred to as "Takeguchi") is respectfully traversed.

Kawase, Lo, and Bray are described above. Takeguchi describes a synchronous digital hierarchy (SDH) transmission system (1) including two sets of SDH transmission

equipment (2 and 3) connected while facing each other through a work line (4) and a protection line (5). Each SDH equipment set (2 and 3) includes a work unit (21W and 31W), a protection unit (21P and 31P), and automatic protection system (APS) control firmware (22 and 32). The APS firmware (22 and 32) performs an APS control at the time of occurrence of a line fault in accordance with setting information on the line switching control between the work units (21W and 31W) and protection units (21P and 31P).

Claim 1 recites an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first monitoring device comprising a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second monitoring device for reporting the link status of the secondary network cable and secondary node; a logic device for monitoring the link status reported by the first and second monitoring devices; and a switching device for routing the data to one or the other of the primary or secondary network cables, wherein the first monitoring device is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switching device routes the data to the secondary network cable."

None of Kawase, Lo, Bray, and Takeguchi, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, as is recited in Claim 1. More specifically, none of Kawase, Lo, Bray, and Takeguchi, considered alone or in combination, describes nor suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line

signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. Bray describes a network transceiver that establishes a communication path between a link partner on a network medium and repeaters that are data rate compatible with the operating speed of the link partner. Takeguchi describes a synchronous digital hierarchy (SDH) transmission system including two sets of SDH transmission equipment connected while facing each other through a work line and a protection line, wherein each SDH equipment set includes a work unit, a protection unit, and automatic protection system (APS) control firmware that performs an APS control at the time of occurrence of a line fault in accordance with setting information on the line switching control between the work units and protection units. However, none of Kawase, Lo, Bray, and Takeguchi, considered alone or in combination, describes or suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and Bray and further in view of Takeguchi.

Claims 8 and 11 depend from independent Claim 1. When the recitations of Claims 8 and 11 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claims 8 and 11 likewise are patentable over Kawase in view of Lo and Bray and further in view of Takeguchi.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claims 8 and 11 be withdrawn.

The rejection of Claim 20 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo and further in view of U.S. Patent 6,233,235 to Burke et al. (hereinafter referred to as "Burke") is respectfully traversed.

Kawase and Lo are described above. Burke describes a cable telephone communications system (10) which employs coaxial cable for standard cable television to allow multiple subscribers to access IP telephony on demand. The system (10) includes a headend (12) as a base communications unit which is connected to subscribers (14) by a distribution network (20) and a combiner (22). The headend (12) is typically located at the cable company headquarters for sending and receiving telephone calls to and from the subscribers (14). The combiner (22) is a cable television converter which also has an input for video broadcast sources (24) and which combines a video signal from a video source (24) and a plurality of telephone signals. The IP telephony data is transmitted using a packeted switched network (72) coupled to an IP backbone (30) by a packet switch router. The IP data may be carried over a variety of networks such as asynchronous transfer mode (ATM), synchronous optical network (SONET), fiber distribution data interface (FDDI), as well as 100 Base-T Ethernet networks.

Claim 1 recites an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first monitoring device comprising a physical layer transceiver for reporting link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second monitoring device for reporting the link status of the secondary network cable and secondary node; a logic device for monitoring the link status reported by the first and second monitoring devices; and a switching device for routing the data to one or the other of the primary or secondary network cables, wherein the first monitoring device is disconnected from monitoring the primary network cable and primary node and connected to monitoring the

secondary network cable and secondary node when the switching device routes the data to the secondary network cable."

None of Kawase, Lo, and Burke, considered alone or in combination, describes nor suggests an autonomous circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, as is recited in Claim 1. More specifically, none of Kawase, Lo, and Burke, considered alone or in combination, describes nor suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. Burke describes a cable telephone communications system including a headend as a base communications unit which is connected to subscribers by a distribution network and a combiner that combines a video signal from a video source and a plurality of telephone signals, wherein the IP telephony data is transmitted using a packeted switched network coupled to an IP backbone by a packet switch router. However, none of Kawase, Lo, and Burke, considered alone or in combination, describes or suggests a switching device for routing data to one or the other of a primary or secondary network cable, wherein a first monitoring device is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the

secondary network cable and a secondary node when the switching device routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 1 is submitted to be patentable over Kawase in view of Lo and further in view of Burke.

Claim 20 depends from independent Claim 1. When the recitations of Claim 20 are considered in combination with the recitations of Claim 1, Applicants submit that dependent Claim 20 likewise is patentable over Kawase in view of Lo and further in view of Burke.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 20 be withdrawn.

The rejection of Claim 43 under 35 U.S.C. § 103(a) as being unpatentable over Kawase in view of Lo and further in view of U.S. Patent 6,813,241 to Wang et al. (hereinafter referred to as "Wang") is respectfully traversed.

Kawase and Lo are described above. Wang describes a data traffic network (240) including a line selection device (260) that includes a two-by-two switch (270) that provides an interface to a working data link (220) and a protection data link (255). During normal operation, logic within the two-by-two switch (270) causes the working data link (220) to be switched to a long reach receiver (218). Once a failure condition is detected by the long reach receiver (218), a triggering event causes a switch within the two-by-two switch (270) from the working data link (220) to the protection data link (255).

Claim 38 recites a method of administering a redundant cable system, wherein the method includes "monitoring, with a first monitoring device comprising a first physical layer transceiver, an occurrence of a fault within a primary network cable; monitoring, with a second monitoring device comprising a second physical layer transceiver, an occurrence of a fault within a second network cable; and switching a data stream route from the primary network cable to the secondary network cable when the first monitoring device indicates a fault in the primary network cable and the second monitoring device indicates no faults in the secondary network cable, wherein the first monitoring device is switched to monitor the

secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable."

None of Kawase, Lo, and Wang, considered alone or in combination, describes nor suggests a method of administering a redundant cable system, as is recited in Claim 38. More specifically, none of Kawase, Lo, and Wang, considered alone or in combination, describes nor suggests a method including switching a data stream route from a primary network cable to a secondary network cable when a first monitoring device indicates a fault in the primary network cable and a second monitoring device indicates no faults in the secondary network cable, wherein the first monitoring device is switched to monitor the secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable.

Rather, in contrast to the present invention, Kawase describes a path switching apparatus that includes a working path and a protection path that both receive incoming line signals, error detecting circuits in each path, a correlation monitoring circuit that receives error detection results from each error detection circuit, and a switching circuit, wherein if a failure is detected in the working path and no failure is detected in the protection path, switching is performed from the working path to the protection path. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. Wang describes a data traffic network including a two-by-two switch that provides an interface to a working data link and a protection data link, wherein once a failure condition is detected by a long reach receiver, a triggering event causes a switch within the two-by-two switch from the working data link to the protection data link. However, none of Kawase, Lo, and Wang, considered alone or in combination, describes or suggests switching a data stream route from a primary network cable to a secondary network cable when a first monitoring device indicates a fault in the primary network cable and a second monitoring device indicates no faults in the secondary network cable, wherein the first monitoring device is switched to monitor the

secondary network cable and no longer monitors the primary network cable when data is switched to travel along the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 38 is submitted to be patentable over Kawase in view of Lo and further in view of Wang.

Claim 43 depends from independent Claim 38. When the recitations of Claim 43 are considered in combination with the recitations of Claim 38, Applicants submit that dependent Claim 43 likewise is patentable over Kawase in view of Lo and further in view of Wang.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 43 be withdrawn.

The rejection of Claim 44 under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Lo is respectfully traversed.

Wang and Lo are described above.

Claim 44 recites a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first physical layer transceiver (PHY) for monitoring a link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second physical layer transceiver (PHY) for monitoring the link status of the secondary network cable and secondary node; a complex programmable logic device (CPLD) for monitoring the link status reported by the first PHY; and a switch for routing the data to one or the other of the primary or secondary network cables, wherein the CLPD causes the switch to change the route of the data from the primary cable to the secondary cable if the first PHY reports a fault in the primary network cable or primary port, and the second PHY reports no fault in the secondary network cable or the secondary port, and wherein the first PHY is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switch routes the data to the secondary network cable."

Neither Wang nor Lo, considered alone or in combination, describes nor suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, as is recited in Claim 44. More specifically, neither Wang nor Lo, considered alone or in combination, describes nor suggests a switch for routing data to one or the other of a primary or secondary network cable, wherein a complex programmable logic device (CLPD) causes the switch to change the route of the data from the primary cable to the secondary cable if a first physical layer transceiver (PHY) reports a fault in the primary network cable or a primary port, and a second PHY reports no fault in the secondary network cable or a secondary port, and wherein the first PHY is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switch routes the data to the secondary network cable.

Rather, in contrast to the present invention, Wang describes a data traffic network including a two-by-two switch that provides an interface to a working data link and a protection data link, wherein once a failure condition is detected by a long reach receiver, a triggering event causes a switch within the two-by-two switch from the working data link to the protection data link. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. However, neither Wang nor Lo, considered alone or in combination, describes or suggests a switch for routing data to one or the other of a primary or secondary network cable, wherein a complex programmable logic device (CLPD) causes the switch to change the route of the data from the primary cable to the secondary cable if a first physical layer transceiver (PHY) reports a fault in the primary network cable or a primary port, and a second PHY reports no fault in the secondary network cable or a secondary port, and wherein the first PHY is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switch routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 44 is submitted to be patentable over Wang in view of Lo.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 44 be withdrawn.

The rejection of Claim 45 under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Lo and further in view of Bray is respectfully traversed.

Wang, Lo, and Bray are described above.

Claim 44 recites a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, wherein the circuit includes "a first physical layer transceiver (PHY) for monitoring a link status of the primary network cable, wherein the link status of the primary network cable includes a notification of a fault within the primary network cable; a second physical layer transceiver (PHY) for monitoring the link status of the secondary network cable and secondary node; a complex programmable logic device (CPLD) for monitoring the link status reported by the first PHY; and a switch for routing the data to one or the other of the primary or secondary network cables, wherein the CLPD causes the switch to change the route of the data from the primary cable to the secondary cable if the first PHY reports a fault in the primary network cable or primary port, and the second PHY reports no fault in the secondary network cable or the secondary port, and wherein the first PHY is disconnected from monitoring the primary network cable and primary node and connected to monitoring the secondary network cable and secondary node when the switch routes the data to the secondary network cable."

None of Wang, Lo, and Bray, considered alone or in combination, describes nor suggests a circuit enabling the routing of data to a primary or secondary network cable connected to primary and secondary nodes, as is recited in Claim 44. More specifically, none of Wang, Lo, and Bray, considered alone or in combination, describes nor suggests a switch for routing data to one or the other of a primary or secondary network cable, wherein a complex programmable logic device (CLPD) causes the switch to change the route of the

data from the primary cable to the secondary cable if a first physical layer transceiver (PHY) reports a fault in the primary network cable or a primary port, and a second PHY reports no fault in the secondary network cable or a secondary port, and wherein the first PHY is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switch routes the data to the secondary network cable.

Rather, in contrast to the present invention, Wang describes a data traffic network including a two-by-two switch that provides an interface to a working data link and a protection data link, wherein once a failure condition is detected by a long reach receiver, a triggering event causes a switch within the two-by-two switch from the working data link to the protection data link. Lo describes a repeater system including a repeater core, repeater ports, and physical layer transceivers, wherein upon receiving a data packet from a transmitting network node, the repeater core can determine the output repeater port serving the destination network node by accessing a look-up table based on the destination address in the received data packet. Bray describes a network transceiver that establishes a communication path between a link partner on a network medium and repeaters that are data rate compatible with the operating speed of the link partner. However, none of Wang, Lo, and Bray, considered alone or in combination, describes or suggests a switch for routing data to one or the other of a primary or secondary network cable, wherein a complex programmable logic device (CLPD) causes the switch to change the route of the data from the primary cable to the secondary cable if a first physical layer transceiver (PHY) reports a fault in the primary network cable or a primary port, and a second PHY reports no fault in the secondary network cable or a secondary port, and wherein the first PHY is disconnected from monitoring the primary network cable and a primary node and connected to monitoring the secondary network cable and a secondary node when the switch routes the data to the secondary network cable.

Accordingly, for at least the reasons set forth above, Claim 44 is submitted to be patentable over Wang in view of Lo and further in view of Bray.

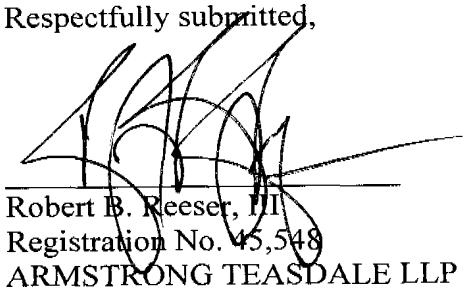
Claim 45 depends from independent Claim 44. When the recitations of Claim 45 are considered in combination with the recitations of Claim 44, Applicants submit that dependent Claim 45 likewise is patentable over Wang in view of Lo and further in view of Bray.

For at least the reasons set forth above, Applicants respectfully request that the Section 103 rejection of Claim 45 be withdrawn.

Claim 46 has been canceled. Accordingly, Applicants respectfully request that the Section 103 rejection of Claim 46 be withdrawn.

In view of the foregoing amendment and remarks, all the claims now active in this application are believed to be in condition for allowance. Reconsideration and favorable action is respectfully solicited.

Respectfully submitted,



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